New EPA Methane Rules Foreshadow Tougher Regulation of Oil and Gas Producers

Romany Webb August 19, 2015 1 Comment

With just over a year left in office, President Obama has stepped up his fight against climate change, announcing a raft of measures aimed at limiting climate-damaging greenhouse gas emissions. Earlier this month, the Obama Administration unveiled its long-awaited Clean Power Plan, establishing the first-ever national limits on carbon dioxide emissions from fossil fuel power plants. With those limits in place, the Administration is now turning its attention to emissions of methane associated with fossil fuel production.

Yesterday, the U.S. Environmental Protection Agency (EPA) proposed new rules aimed at curbing methane emissions from oil and gas production (the "methane rule"). The oil and gas sector is currently the largest industrial emitter of methane, accounting for nearly 30 percent of national emissions. Without action, the sector's methane emissions are projected to rise by more than 25 percent by 2025. Seeking to avoid this, in January, the Obama Administration announced a plan to reduce emissions by 40 to 45 percent below 2012 levels by 2025.

EPA's methane rule represents the first of what will likely be many steps to achieve that target. The rule establishes the first ever limits on methane emissions from the oil and gas sector. Until now, there has been no direct regulation of the sector's methane emissions. Rather, methane emissions have been regulated only indirectly under standards applying to volatile organic compounds (VOCs) and hazardous air pollutants (HAPs).

The methane rule was established under section 111(b) of the Clean Air Act (42 U.S.C. § 7411(b)). Briefly, by way of background, section 111(b) requires EPA to publish a list of categories of stationary sources which cause or contribute significantly to "air pollution which may reasonably be anticipated to endanger public health or welfare" ("dangerous air pollution"). In 2009, the EPA determined that emissions of methane and five other greenhouse gases endanger public health by contributing to climate change.

EPA must establish standards of performance, known as new source performance standards or NSPS, for new and modified stationary sources of dangerous air pollution. NSPS are technology-based emissions standards intended to promote use of the best system of emission reduction, taking into account the cost of such system, and any health and environmental impacts and energy requirements. EPA's methane rule establishes NSPS for new and modified facilities in the oil and gas sector. It applies to oil and gas well sites and certain processing and transportation systems.

Under the methane rule, new oil wells developed using hydraulic fracturing (fracking) will be required to install reduced emission completions. During well completion, oil producers generally flow the well to remove debris. As part of this process, liquid hydrocarbons are moved to an open pit or tank and associated methane gas is vented or flared. With a reduced emission or green completion, processing equipment is used to separate and collect the methane, which can then be used as an on-site fuel source or sold along with other natural gas.

As previously reported, since October 2012, EPA regulations (40 CFR Part 60, Subpart OOOO) have required the use of green completions on gas wells using fracking. The methane rule extends that requirement to fracked oil wells, requiring the operators of such wells to use green completions, which capture methane and route it to a collection system, re-inject it into the well, or use it on-site with no direct release to the atmosphere. Only if this is infeasible are operators permitted to flare the gas and in no case can gas be vented.

The methane rule also requires oil and gas producers to take steps to reduce leaks at well sites and other facilities. To this end, producers must conduct leak surveys semi-annually and repair leaks detected through those surveys within 15 days. Producers may, depending on the number of leaks detected, have to increase the frequency of surveys (i.e., to quarterly if leaks are detected in 3 percent or more of components).

Given the above, the methane rules should help to curb emissions from new oil and gas facilities. Notably however, the rules do not apply to existing facilities, which are and will likely remain a major source of methane. Indeed, a recent study found that existing facilities (installed by 2011) will account for 90 percent of methane emissions from the oil and gas sector in 2018. Controlling those emissions is, therefore, vital.

To date, EPA has been reluctant to impose mandatory emission reduction standards on existing facilities, instead favoring voluntary measures. In 1993, EPA established the Natural Gas STAR program which aims to encourage oil and gas producers to voluntarily reduce emissions by providing data on proven emissions reduction technologies. To date, however, participation in the program has been limited. Indeed, just 120 of the nearly 6,000 energy companies operating in the U.S. currently participate in the program.

Despite this, industry participants argue that further regulation is unnecessary as producers will voluntarily invest in emissions reductions, because doing so allows them to capture and sell more gas. The potential for increased sales is not, however, always enough to encourage investment. The high initial cost of emissions reduction technologies, combined with uncertainty regarding the payback period, often deters producers from investing in gas capture. This is particularly likely in areas, such as North Dakota, with limited access to markets for captured gas.

It may, therefore, be necessary to establish mandatory regulations for methane emissions from existing facilities. EPA is, seemingly, on a path to do just that. Under the Clean Air Act, when NSPS are established with respect to an air pollutant (other than a criteria pollutant or hazardous air pollutant), EPA must establish regulations to address emissions of that pollutant from existing sources. EPA has not yet said when it will establish regulations for methane emissions from existing oil and gas facilities and instead continues to tout the benefits of its voluntary Natural Gas STAR program. That program is, however, unlikely to be sufficient to meet the nation's climate goals.

carbon dioxide | Clean Air Act | Clean Power Plan | climate change | energy | epa | greenhouse gas emissions | methane | natural gas | oil and gas

One comment

Leigh Williamson
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Very informative blog. It seems mandatory regulations definitely the way to go.

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greenhouse gas emissions (10)
groundwater (9)
coal (9)
Clean Air Act (9)
court cases (8)